

We claim:

1. A photosensitive flexographic printing element for the  
5 production of flexographic printing plates for digital  
imaging by means of lasers, comprising at least
  - a dimensionally stable support,
  - 10 • at least one photopolymerizable layer, at least  
comprising an elastomeric binder, a  
polymerizable compound and a photoinitiator or  
photoinitiator system,
  - 15 • at least two laser-ablatable layers A and B,  
each comprising at least one binder and also an  
IR absorber for laser radiation, and
  - optionally a removable, flexible protective film
- 20 wherein the at least one binder of layer A is an elastomeric  
binder and the at least one binder of layer B is a  
self-decomposing binder, and the optical density of the  
entire layer sequence of IR-ablative layers in the actinic  
25 spectral region is at least 2.5.
2. A photosensitive flexographic printing element as claimed in  
claim 1, wherein the self-decomposing binder of layer B  
contains nitro or nitrate ester groups.
- 30 3. A photosensitive flexographic printing element as claimed in  
claim 2, wherein the binder containing the nitro and/or  
nitrate ester groups is a cellulose or cellulose ether  
nitrate ester.
- 35 4. A photosensitive flexographic printing element as claimed in  
one of claims 1 to 3, wherein the elastomeric binder is a  
binder comprising diene units.
- 40 5. A photosensitive flexographic printing element as claimed in  
one of claims 1 to 4, wherein the IR absorber is carbon  
black.
- 45 6. A photosensitive flexographic printing element as claimed in  
one of claims 1 to 5, wherein the flexographic printing  
element has further IR-ablative layers.

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7. A process for the production of a flexographic printing plate in which the starting material employed is a photosensitive flexographic printing element as claimed in one of claims 1 - 6, comprising the following steps:

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(a) removal of the removable, flexible protective film, if present,

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(b) writing of a mask into the layer system comprising IR-ablative layers by means of an IR laser,

(c) full area exposure of the photosensitive element to actinic light through the mask formed in step (b),

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(d) treatment of the intermediate formed in (c) with at least one developer solution, during which the residues of the IR-ablative layers which have not been removed in step (b) are removed and the exposed photopolymerizable layer is developed.

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8. A process as claimed in claim 7, wherein step (b) is carried out using a laser apparatus having a rotating drum, and the flexographic printing element is mounted on this drum for ablation.

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